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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,915	05/25/2001	Thomas Daniel	208608US0PCT	2083
EXAMINER				
METZMAIER, DANIEL S				
ART UNIT			PAPER NUMBER	
1712				

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/831,915

**Applicant(s)**

DANIEL ET AL.

**Examiner**

Daniel S. Metzmaier

**Art Unit**

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006 and 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/21/2006.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Claims 1-7 and 10-21 are pending.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 28, 2006 has been entered.

#### ***Information Disclosure Statement***

2. The information disclosure statement filed April 21, 2006 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the reference lacks a date. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

#### ***Claim Objections***

3. Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is

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required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 15 excludes the limitation added to the independent claim.

### ***Double Patenting***

4. Applicant is advised that should claim 13 be found allowable, claim 19 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Both are directed to dried hydrogels. The limitation to "a swollen hydrogel" would be dependent on the treatment with the aqueous fluid rather than the hydrogel.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 6-7, 10-14, 16 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Boschetti et al, US 5,075,371. Boschetti et al (examples and claims) discloses the polymerization of an acrylamide with the addition of sodium silicate and optionally forming particulate gels in oil followed by separation, and drying. Boschetti et al (examples and claims) discloses a number of sodium silicate, which inherently read on the alkali metal oxide to silica ratio claimed. Said materials are commercially available within said range. Boschetti et al (examples and claims) characterizes the gels as aqueous gels, which is deemed synonymous with the term hydrogel.

Boschetti et al (column 1) discloses the inorganic organic materials as chromatographic materials and would have been expected to have some absorbing properties to function as an chromatographic media. The concentration ranges of instant claim 2 clearly encompass calculated values disclosed in the Boschetti et al (examples and claims) reference.

To the extent Boschetti et al differs from the claims in the specified alkali metal oxide to silica ratio claimed, said range encompasses commercially available sodium silicate solutions and would have been obvious as conventional sodium silicate materials for their availability. Boschetti et al (column 2, lines 15 et seq) employs acid in the Boschetti et al process prior to the addition of the sodium silicate and defines the pH. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the alkali for their advantageous use as chromatographic materials.

Boschetti et al (column 2, lines 1-6) teaches the polymers may be made by simultaneous or sequential polymerization in aqueous medium, of sodium silicate, acrylic or allyl monomers and difunctional acrylic or allyl crosslinking monomers in the presence of a polymerization agent. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the alkali for their advantageous cross-link sequentially as contemplated in the Boschetti et al reference.

9. Claims 4-5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boschetti et al, US 5,075,371. Boschetti et al discloses the polymerization of an acrylamide with the addition of sodium silicate and optionally forming particulate gels in oil followed by separation, and drying as set forth in the preceding anticipation rejection.

Boschetti et al differs from claims 4 and 5 in the point of addition of the sodium silicate and the further combination of a neutralizing agent, i.e., alkali metal hydroxide or alkali metal carbonate.

Boschetti et al (examples) discloses the use of sodium hydroxide in the particle embodiment and teaches (column 2, lines 46 et seq) neutralization. Changes in the order of process steps has been held to be *prima facie* obvious. See MPEP 2144.04(C). Furthermore, the use of conventional neutralizing agents, i.e., sodium carbonate, is within the level of one having ordinary skill in the art at the time of applicants' invention for the advantage of buffering the system such as is employed in the Boschetti et al (example 7) reference.

Boschetti et al differs from claim 17 in the use of sodium silicate rather than potassium silicate claimed. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ potassium silicate as an obvious functional equivalent to the sodium silicate and their structural similarity.

10. Claims 1-4, 6-7, 10-16 and 18-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Seiter et al, US 4,707,290. Seiter et al (example 1) discloses the combination of an aqueous acrylates and sodium silicates to form a granular absorbent. The polymer solution is in polymerized form and the addition of the silicate thereto. The characterization of the material as a hydrogel would have been inherent to the 40 % concentration of the polymer.

To the extent the polymer is not in a gel form, said limitation does not distinguish the product which is further dried and any increased aqueous solvent would have improved dispersibility of the silicate in the dried product. The product resulting from the process has not been shown to distinguish over the wet processing followed by drying

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to form the absorbent granules. It would have been obvious to vary the water content of the polymer for the advantage of the polymers binder function and facilitate the granule formation on drying.

Claims 19-21 are included herein since the claims do not set forth conditions of adsorption, swelling or solubility. US 4707290 (column 3) clearly contemplates copolymers.

### ***Response to Arguments***

11. Applicant's arguments filed April 21, 2006 have been fully considered but they are not persuasive. It is noted that the arguments presented on April 21, 2006 and those of March 28, 2006 are substantially the same and reference is only made to those arguments of April 21, 2006.

12. Applicants assert the polymers of '371 polymers are not post cross-linked and are not structured polymers. This has not been deemed persuasive since '371 (column 2, lines 1-6) teaches the polymers may be made by simultaneous or sequential polymerization in aqueous medium, of sodium silicate, acrylic or allyl monomers and difunctional acrylic or allyl crosslinking monomers in the presence of a polymerization agent.

Furthermore, selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. To the extent said materials are characterized as such, said claims are not commensurate in scope with the breath of the asserted results, e.g., structured materials.



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13. Applicants' (page 9) arguments regarding the degree of cross-linking have not been deemed persuasive since the claims do not limit the degree of cross-linking.

14. Regarding claim 21, the cross-linked polymers are by definition "copolymers".

15. Applicants (page 8 of the above noted response) assert that the US 5075371 is directed to acrylamides and the instant claims are directed to acids and salts. Claim 3 of the US 5075371 reference specifically mentions acrylic acids. Said arguments have not been deemed persuasive nor has applicants shown that said alleged difference would have been unobvious in view of the prior art.

16. Furthermore, applicants arguments are inconsistent with the arguments proffered to rebut US 4707290 on page 9 of this response, which asserts the instant compositions are cross-linked copolymers. Claim 21 recites copolymers. US 4707290 (column 3) clearly contemplates copolymers.

The claims are drafted in product-by-process format and have not been shown to impart a patentable difference for the claimed invention.

17. Applicants' reference to the examples and comparative examples are not commensurate with the instant claims.

### ***Conclusion***

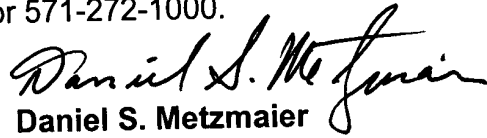
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Daniel S. Metzmaier  
Primary Examiner  
Art Unit 1712

DSM